Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/719,409	FURTEK ET AL.
	Examiner	Art Unit	
	Scott Sun	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 March 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-14* is/are pending in the application.

    4a) Of the above claim(s) <u>4</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 5-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's amendment to the claims filed 3/21/2006 has been noted and entered.

Election/Restrictions

2.   Applicant's election of claims 1-3 in the reply filed on 3/21/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Response to Arguments

3.   Applicant's arguments with respect to claims 1, 5-14 have been considered but they are not persuasive.

    a.   Applicant's arguments are summarized as: *Master et al* does not qualify as prior art.

    b.   Prior art of record does not teach "wherein the IOC operates within an adaptive computing engine".

4.   In response to argument 'a', examiner notes that Master et al (PG Pub 2002/0128716) has a publication date of 9/26/2002. Accordingly, it also qualifies as prior art under U.S.C. 102 (a) and therefore, is not disqualified as prior art under 35 U.S.C. 103(c).

5.   In response to argument 'b', examiner notes that the amended claim 1 does not clearly state that the IOC operates within an adaptive computing engine. It is also unclear what elements, if any, are included in the adaptive computing engine or the IOC based on the preamble. Accordingly, the scope of the amended claim is different from the original claims.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7.   Claims 1, 5-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8.   Claim 1 recite in the preamble, "a reconfigurable input/output controller coupled to a plurality of nodes in an adaptive computing engine, wherein the coupling includes an interconnection network". It is unclear what elements (plurality of nodes, coupling, interconnection network), if any, are within the ACE or the IOC. It is further unclear if the ACE, the plurality of nodes, and the interconnection network are merely intended use. If applicant intends to claim an adaptive computer engine, which comprises the reconfigurable IOC, the plurality of nodes, and the interconnection network, the claim should be drafted as such.

9.   The following rejections are made based on the examiner's best interpretation of the claims in light of the 35 USC 112 rejections above.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11.   Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Wolrich.

Wolrich discloses a reconfigurable IOC (system shown in figure 1, detail shown in figure

3) comprising at least one input (input into translation unit 30) coupled to an

interconnection network (various connections shown in figure 3) for receiving a point-to-

point transfer instruction (read or write operation); and at least one output (output from

translation unit) for providing a translated point-to-point transfer instruction to an

external device (column 5, line 42-52). As stated above in the U.S.C. 112 rejection, it is

unclear how the limitations in the preamble are to be interpreted. In the event that the

limitations in the preamble are merely intended use, claim 1 is rejected under 102(e).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

13.   In anticipation of appropriate amendments to incorporate the limitations in the

preamble to the body of the claim, the following rejections under U.S.C 103 is applied,

claims 1, 6, 8-10 are rejected under 35 U.S.C. 103(a) or 102(e) as being unpatentable

over Wolrich in view of Master (Cited in previous action) or Nakaya (PG Pub #

2001/0052793).

14.   Regarding claim 1, Wolrich discloses a reconfigurable IOC (system shown in

figure 1, detail shown in figure 3) comprising at least one input (input into translation unit

30) coupled to an interconnection network (various connections shown in figure 3) for

receiving a point-to-point transfer instruction (read or write operation); and at least one

output (output from translation unit) for providing a translated point-to-point transfer

instruction to an external device (column 5, line 42-52).

        Wolrich does not disclose explicitly the IOC is coupled to a plurality of nodes in

an adaptive computing engine, wherein the coupling includes an interconnection

network. However, Master and Nakaya disclose an adaptive computing engine (figure

1, Master; Nakaya, figure 5) including an IOC (controller 120, Master; I/O circuits,

Nakaya, paragraph 3) coupled to a plurality of nodes (matrices 150, Master; function

cells, Nakaya, paragraph 3), wherein the coupling includes an interconnection network

(interconnection network 110, Master, paragraph 25; interconnect network, Nakaya,

paragraph 3). Teachings of Wolrich and Master are from the same field of processors,

and specifically data transferring using processors.

Therefore, it would have been obvious at the time of invention to combine

teachings of Master and Wolrich by operating the processing system of Wolrich inside

an adaptive computing engine for the benefit of increased flexibility, speed, and power

conservation (paragraph 10, Master).

Examiner notes that teachings of Nakaya can be similarly combined with

teachings of Wolrich.

15.   Regarding claim 6, Master and Wolrich combined disclose claim 1, and Wolrich

further discloses wherein a translated point-to-point transfer instruction provides

translation of an address from the adaptive computing engine to the external device

(column 5, line 42-52).

16.   Regarding claim 8, Master and Wolrich combined disclose claim 1, and Master

further discloses memory random access circuitry (RAM being part of the ACE,

paragraph 27).

17.   Regarding claim 9, Master and Wolrich combined disclose claim 1, and Master

further discloses direct access circuitry (DMA being a capability of ACE, paragraph 27).

18.   Regarding claim 10, Master and Wolrich combined disclose claim 1, and Master

further discloses a real time input circuitry (a circuitry of ACE, paragraph 26).

19.   Regarding claim 12, Master and Wolrich combined disclose claim 1, and Master

further disclose a physical link adaptor connected to an input of the configurable IOC

(paragraph 25). Examiner notes that Master teaches ACE is a processor system used

for processing and transferring data inside a larger system (integrated circuit) containing

other components. A physical link (data interface) would be needed to exchange data between the ACE system and the external devices.

20.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolrich in view of Master and further in view of Shukla (PG Pub #2002/0042875).

21.   Wolrich and Master combined disclose claim 1, but does not disclose explicitly translation of a port number. However, Shukla teaches translation of a port number (paragraph 52). Teachings of Wolrich, Master, and Shukla are from the same field of data transfer processing.

Therefore, it would have been obvious at the time of invention to combine teachings of Wolrich and Master and further with teachings of Shukla by translating the port number to allow transferring data between two hosts on different LANs (paragraph 52).

22.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolrich in view of Master and further in view of Warren (US Patent #6,675,284).

23.   Regarding claim 7, Wolrich and Master combined disclose claim 1, but do not disclose explicitly peek/poke service circuitry. However, Warren discloses peek/poke service circuitry (peek and poke; column 12, lines 37-45). Teachings of Wolrich, Master, and Warren are from the same field of processors, and specifically of data transfer processing.

Therefore, it would have been obvious at the time of invention for a person of ordinary skill in the art to combine teachings of Wolrich and Master and further with teachings of Warren by adding peek/poke circuitry in the combined system of Wolrich and Master to read and write to memory contents.

24.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wolrich in view of Master and further in view of Pham et al (US Patent #2003/0074473).

25.   Wolrich and Master combined do not disclose explicitly a status line. However, Pham discloses a status line (grant and status signals, figure 11) coupled to an external device (other processors) for indicating an availability of services (paragraph 64). Teachings of Wolrich, Master, and Pham are from the same field of processors, and specifically of data transfer processing.

Therefore, it would have been obvious at the time of invention for a person of ordinary skill in the art at the time of invention to combine teachings of Master, Wolrich, and further with teachings of Pham by adding status lines into the combined system of Master and Wolrich for the benefit of loading balancing (paragraph 64).

26.   Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wolrich in view of Master and further in view of Schunk et al (US Patent #6,980,515).

27.   Regarding claim 13, Wolrich and Master combined disclose claim 1, but do not disclose explicitly a plurality of different physical connectors coupled to the coupling circuitry. However, Schunk discloses a plurality of different physical connectors (column

8, lines 5-16). Teachings of Wolrich, Master, and Schunk are from the same field of processors and specifically of data transfer processing.

Therefore, it would have been obvious at the time of invention for a person of ordinary skill in the art to combine teachings of Wolrich, Master, and Schunk by adding multiple connectors in the combined system of Wolrich and Master for the benefit of failure recovery (Schunk, column 8, lines 5-16). Examiner notes that coupling circuitry is any data carrier (data bus) between the physical link and the connectors.

28.   Regarding claim 14, Wolrich, Master, and Schunk combined disclose claim 13, and Schunk further discloses a reconfigurable finite-state machine (automatic protection switching hardware) for controlling the coupling circuitry to selectively connect a signal from a physical connector (column 8, lines 5-16).

Conclusion

29.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any
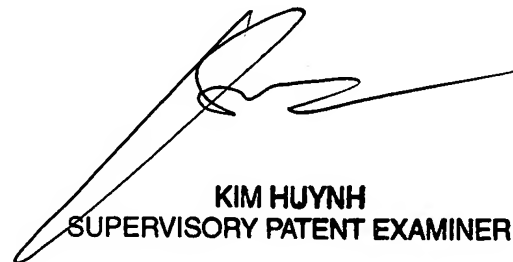
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Scott Sun whose telephone number is (571) 272-2675.

The examiner can normally be reached on M-F, 10:30am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kim N. Huynh can be reached on (571) 272-4147. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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SS

KIM HUYNH
SUPERVISORY PATENT EXAMINER

9/3/06